

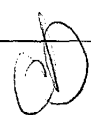


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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/087,558	02/28/2002	Ross S. Dando	MI22-1940	2179
21567	7590	01/05/2004	EXAMINER	
WELLS ST. JOHN P.S. 601 W. FIRST AVENUE, SUITE 1300 SPOKANE, WA 99201			ZERVIGON, RUDY	
			ART UNIT	PAPER NUMBER
			1763	
DATE MAILED: 01/05/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No 10/087,558	Applicant(s) DANDO ET AL.	
	Examiner Rudy Zervigon	Art Unit 1763	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-61 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-61 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
 a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-7, 12, 13-18, 20-27, 29, 30, 45, 46, 54, and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones et al (USPat. 5,254,210) in view of Abe et al (USPat. 5,200,388). Jones teaches a reactive gas source precursor (GM1-GM4; column 3, line 61 - column 4, line 24; Figure 1) feeding manifold (80; column 3, line 61 - column 4, line 24; Figure 1,2) assembly, comprising: a body (injection header where all four three-way valves 81 feed to (not labeled); Figure 1,2) comprising a plenum chamber (inherency of any piping conduit as demonstrated by Applicant's Figure 1); a valve (any of the four valves 81; Figures 1,2) proximate the body (injection header where all four three-way valves 81 feed to (not labeled); Figure 1,2) having at least two inlets (the body has four inlets as shown in Figure 1) and at least one outlet (the body has one outlet – feeding reactor 25 as shown in Figure 1), at least one valve (any of the four valves 81; Figures 1,2) inlet, all having angles of 0° relative to each other (“no plenum chamber inlet is angled”), and being configured for connection with a reactive precursor (GM1-GM4; column 3, line 61 - column 4, line 24; Figure 1) source, at least one valve outlet feeding to a precursor (GM1-GM4; column 3, line 61 - column 4, line 24; Figure 1) inlet to the plenum chamber (inherency of any piping conduit as demonstrated by Applicant's Figure 1); and the body (injection header where all four three-way valves 81 feed to (not labeled); Figure 1,2) comprising a plenum chamber (inherency of any piping conduit as demonstrated by Applicant's

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Figure 1) outlet configured to connect with a substrate processing chamber, as required by claim 1.

Jones further teaches, the manifold (80; column 3, line 61 - column 4, line 24; Figure 1,2) assembly of claim 1 wherein the valve (any of the four valves 81; Figures 1,2) has only two inlets and only one outlet (see 80; Figure 1,2), as claimed in claim 3 – Regarding “inlets” and “outlets” for Jones’s valves, and the identity of the gases flowing there through as being a “purge gas”, it has been held that claim language that simply specifies an intended use or field of use for the invention generally will not limit the scope of a claim (Walter , 618 F.2d at 769, 205 USPQ at 409; MPEP 2106). Additionally, in apparatus claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim (In re Casey, 152 USPQ 235 (CCPA 1967); In re Otto , 136 USPQ 458, 459 (CCPA 1963); MPEP2111.02).

Jones further teaches the manifold (80; column 3, line 61 - column 4, line 24; Figure 1,2) assembly wherein the plenum chamber (inherency of any piping conduit as demonstrated by Applicant’s Figure 1) is longitudinally elongated having a longitudinal axis (long axis), the plenum chamber (inherency of any piping conduit as demonstrated by Applicant’s Figure 1) having a first longitudinal axis end (upstream-most 81) and a second longitudinal axis end (downstream-most 81), the plenum chamber outlet being proximate the second end, as claimed in claim 12.

Jones further teaches an elongated segment (conduit piping between each of 81 and Jones’s body) joining the precursor feed streams Jones’s plenum chamber precursor inlet.

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Jones does not teach a purge stream having a purge inlet to Jones's plenum chamber. Jones does not teach a structure on the body (injection header where all four three-way valves 81 feed to (not labeled); Figure 1,2) configured to mount the body to his substrate processing chamber (25; Figure 1).

Abe teaches a similar precursor deliver system for film depositions (Figure 6; column 7, lines 4-22). Inclusive, Abe teaches a purge stream (precursor header to "exhaust device"; not labeled) having a purge inlet to a plenum chamber (precursor header; not labeled), the purge inlet is shown angled at 90° to the precursor inlet.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a purge stream having a purge inlet, on a longitudinal axis and angled at 90° to the precursor inlet, to Jones's plenum chamber as taught by Abe.

Motivation to include a purge stream having a purge inlet to Jones's plenum chamber as taught by Abe is for optimizing the composition of the gas delivered to the reactor as taught by Abe (column 4, lines 43-54).

3. Claims 8-11, 19, 28, 31-44, 48-53, and 56-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones et al (USPat. 5,254,210) and Abe et al (USPat. 5,200,388) in view of McMillan et al (USPat. 5,316,579). Jones and Abe are discussed above. Jones and Abe do not teach a structure on the body configured to mount the body to a substrate processing chamber with the plenum chamber outlet proximate to and connected with a substrate processing chamber inlet, as claimed in claim 8.

McMillan teaches a similar precursor gas delivery system (Figure 5; column 10; lines 10-25) including a flange structure (see 114/102 interface) on the body (114) enabling the plenum

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chamber outlet (114) proximate to and connected with a substrate processing chamber (102) inlet (114/102 interface).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include McMillan's flange structure (see 114/102 interface) on the body (114) as part of Jones and Abe's process gas delivery system.

Motivation to include McMillan's structure on the body as part of Jones and Abe's process gas delivery system is for ensuring hermetic integrity of the system.

Response to Arguments

4. Applicant's arguments filed September 4, 2003 have been fully considered but they are not persuasive.

5. Applicant states:

“

Each independent claim also recites that the assembly includes a purge gas stream which has a purge gas inlet to the plenum chamber, and with the purge gas inlet being received upstream of the plenum chamber precursor inlet or inlets. At least this latter feature, present in each of Applicant's independent claims, is not present in any of the references which have been applied in rejecting such claims.

“

It was stated in the first action on the merits that regarding “inlets” and “outlets” for Jones's valves, and the identity of the gases flowing there through as being a “purge gas”, it has been held that claim language that simply specifies an intended use or field of use for the invention generally will not limit the scope of a claim (Walter , 618 F.2d at 769, 205 USPQ at 409, MPEP

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2106). Additionally, in apparatus claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim (*In re Casey*, 152 USPQ 235 (CCPA 1967); *In re Otto*, 136 USPQ 458, 459 (CCPA 1963); MPEP2111.02).

6. Applicant further states that Abe does not teach “the purge gas inlet being received upstream of the plenum chamber precursor inlet”. The Examiner disagrees. Applicant’s purge gas stream inlet (62, Figure 1) is directly analogous to Abe’s gas delivery configuration. Specifically, Abe teaches a purge stream (precursor header to “exhaust device”; not labeled) having a purge inlet to a plenum chamber (precursor header; not labeled), the purge inlet is shown angled at 90° to the precursor inlet.

7. Applicant states that “the Examiner apparently relies on the piping to the exhaust device 20 as constituting the equivalent of the claim recited “purge gas stream.” Applicant misinterprets the Examiner’s stated position – “a purge stream (precursor header to “exhaust device”; not labeled) having a purge inlet to a plenum chamber (precursor header; not labeled)”. As such, the Examiner is equating the precursor header with the purge gas stream, not the exhaust device.

8. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., “The phrase “proximate the body” with respect to a valve is defined in the specification at p.6, lns.9- 12 to mean that an outlet of the valve assembly is within 8.0 inches of an external housing surface of the body. Exemplary reasons for doing so”) are not recited in the rejected claims. Although the

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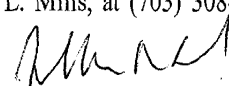
claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Rudy Zervigon whose telephone number is (703) 305-1351. The examiner can normally be reached on a Monday through Thursday schedule from 8am through 7pm. The official after final fax phone number for the 1763 art unit is (703) 872-9311. The official before final fax phone number for the 1763 art unit is (703) 872-9310. Any Inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Chemical and Materials Engineering art unit receptionist at (703) 308-0661. If the examiner can not be reached please contact the examiner's supervisor, Gregory L. Mills, at (703) 308-1633.



JEFFRIE R. LUND
PRIMARY EXAMINER